Amendments to the Specification

Please amend paragraphs 0069, 0097, 0098, 0109, and 0121 of the specification as follows:

[0069] Fig. 7 shows an example of the supremum and infimum voltage supply circuit 51A of the voltage increment circuit 50A. The supremum and infimum voltage supply circuit 51A comprises a shunt regulator 510, a first operational amplifier 511, and a second operational amplifier 512, wherein the power supply part 2 supplies predetermined voltage (e.g. 5V) to an input terminal 70 to the shunt regulator 510. This predetermined voltage is transformed into the supremum voltage E_H and the infimum voltage E_L in the shunt regulator 510, and the supremum voltage E_H is outputted from one output terminal 71 of the shunt regulator 510 while the infimum voltage E_L is outputted from the other output terminal 72 of it.

[0097] Accordingly, the voltage increment device sets the next check voltage E_1 to 1.41V made by the lowest check voltage E_0 plus 0.01V. During the first check of charging condition by use of this check voltage E_1, electric current that is a little less than 2mA flows through the nickel-hydrogen battery. As the number of checks by use of the check voltage E_1 increases, the detected electric current *i* during the check decreases so that it drops along a [[bold]] dotted line on the scale of 1.41V in Fig. 12. For example, it is judged at the third check by the check voltage E_1 that the detected electric current *i* is smaller than (or equal to) the standard electric current K for judging. Since the number (three) of the present checks for getting the judgment that the detected electric current *i* is smaller than (or equal to) the standard electric current K for judging is smaller than the number (twenty) of the last checks by use of the lowest check voltage E_0 for getting the

judgment that the detected electric current *i* is smaller than (or equal to) the standard electric current K for judging, charge of the battery should be continued.

[0098] Then, the voltage increment device sets the after-next check voltage E_2 to 1.42V made by the check voltage E_1 plus 0.01V. During the first check of charging condition by use of this check voltage E_2, about 2mA electric current flows through the nickel-hydrogen battery. As the number of the checks by use of the check voltage [[E_1]] E_2 increases, the detected electric current *i* during check decreases so that it drops along a [[bold]] dotted line on the scale of 1.42V in Fig. 12. For example, it is judged at the third check by the check voltage E_2 that the detected electric current *i* is smaller than (or equal to) the standard electric current K for judging. Since the number (three) of the present checks for getting the judgment that the detected electric current *i* is smaller than (or equal to) the standard electric current K for judging is equal to the number (three) of the last checks by use of the check voltage E_1 for getting the judgment that the detected electric current *i* is smaller than (or equal to) the standard electric current K for judging, charge of the battery should be continued.

[0109] Next, the theory of charge by the charging equipment 1 for a secondary battery of the present invention will be explained.

Fig.14 illustrates three typical asymptotic function charts approaching respective fixed values. Of the functions represented by the charts, the function of Fig.14 (b) is not applicable to charge by the charging equipment 1 for a secondary battery of the present invention. Therefore, only the functions of Fig.14 (a) and Fig.14 (c) will be taken into account.

First, the function of Fig.14 (a) will be explained. As shown in Fig.15, if an electric potential for saturating a fully charged secondary battery, whose charging rate is 100%, is expressed ~~with $V_{eq,f,}$~~ with $V_{eq,f,}$ electromotive voltage $V_{eq}(t)$ of the secondary battery is formulated with a following formula (a-1).

[0121] For example, Constants about a secondary battery are assumed as follows: ~~$V_{eq,f}=1.417V,$~~ $V_{eq,f}=1.417V$, $V_{eq}(t_0)=1.385V$. A constant λ is decided based on charging electric current, and an increment of compared voltageΔV is 0.01V. In case of the pattern of the time-voltage curve in Fig. 16, the time t_1 serves as the base point of computation. (Even if the check voltage for start is set as 1.38V, the time to be controlled is after the time t_1 in Fig.16.)

These values are substituted for respective constants in the formula (a-8). As a result, a following formula (a-9) is given.